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ABSTRACT

This study examined the impact on children of two deceptive and two non-deceptive 60-second color commericals inserted in a 25-minute film. The ads were rated as deceptive or non-deceptive by attorneys at the Federal Trade Commission. A total of 102 students aged 11 to 13 and 34 students aged 7 viewed the film with the ads inserted. Pre- and post-questionnaires were administered to all students before and after the film session to determine any charges in acceptance of beliefs contained in the commericials, in attitudes, or in behavioral intentions. The posttest included recall items to indicate whether children attended to the commericals. The pretest for the older children also included items designed to measure family communications. Results indicated high recall of brand for all age groups and little if any relationship between program liking and reaction to the commercials. The children were influenced to change their levels of acceptance of the beliefs contained in the commercials; this effect was weakest in children who came from families which stressed questioning in family communications. Younger children showed shifts in beliefs produced by both deceptive and non-deceptive ads, but older children were persuaded only by one deceptive commercial. No direct impact was found on brand attitudes or on intentions. (GO)

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THE MEASUREMENT OF ADVERTISING IMPACT ON CHILDREN

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In the past six years, the area of children's advertising has received national attention. Motivated by the claims and counterclaims about the effects of television on children (Advertising Age, 1971a; Choate, 1971; Banks, 1971; Advertising Age, 1971b; Kay, 1974; Ward and Wackman, 1973), a number of research studies have been conducted.

Early studies examined the effect of television in general on children (Appell, 1963; Krugman, 1965; McNeal, 1964; Steiner, 1966; Ward, 1971). Also, research has examined how effective the television medium is for advertising to children (Jones, 1971: Advertising Age, 1971a; Wells, 1965a; Wells, 1965b). Interpersonal behavior has also been studied with respect to children's advertising (Ward and Wackman, 1971). The consumer learning process in relation to TV advertising has been investigated as well (Ward and Wackman, 1971; Rubin, 1974; Blatt, Spencer and Ward, 1971). The study of children's advertising has also considered the effect of race on children's cognitive responses to advertising (Barry and Hansen, 1973).

However, most of the above studies have used survey methodology. An exception to this has been some of the work which examines the effect of TV advertising on the child's development of role stereotypes (Atkin, 1975). A comprehensive review of the literature on children's advertising can be found elsewhere (Moleski, 1975).

Objectives of the Study

The objectives of this study were as follows:

1. To examine in a controlled experimental setting the persuasibility of specific deceptive and non-deceptive commercials as judged by the Federal Trade Commission.

2. To examine the relationships of belief items in commercials and favorability toward the brand with intentions to buy the product.

3. To examine the impact of parent-child interaction patterns on the perception of television commercials.

4. To examine older and younger children with respect to any differential impact on the same commercials.

5. To examine whether the vehicle in which ads are placed have any effect on the perception of commercials.

Methodology

Subjects

One hundred and two seventh and eighth grade (11-13 years old) and 34 second grade (7 years old) students were recruited from the Rogers Park elementary school in Chicago, Illinois. The school draws students from an upper-middle income community. Students at the school tend to score above average on standarized achievement tests.

Stimulus Material

The stimulus material consisted of a twenty-five minute film (Walt Disney's "Under the Deep Sea Reef") in which four 60 second color commercials were inserted. One commercial was placed at the beginning of the film (immediately after the introduction). Two other commercials were placed at approximately eleven minute intervals (or where logical breaks in the film occurred) while the last ad appeared just before the final credits.

Two of the commercials were deceptive while two were not. The standard used to determine deception was a series of unofficial and official judgments made by attorneys at the Federal Trade Commission. The two

non-deceptive ads had been taken to the Federal Trade Commission and rated separately by four attorneys active in this area of litigation. Unofficial agreement was reached by all four attorneys that the two ads had no legal problems.

The one non-deceptive ad was for Koolaid and features the Monkeys, a former rock singing group. The second non-deceptive ad was an informational ad developed by Kelloggs which attempted to convey the idea that eating a good breakfast would let children have sufficient energy to run and play all morning. No Kellogg product was mentioned.

The two deceptive ads were obtained from the files of the Federal Trade Commission, one was for Johnny Lightning racing car sets and the other was for Wonder Bread. The complaint for Johnny Lightning charged that through special camera, filming or sound techniques the commercial:

1. Exaggerated the set's appearance.
2. Conveyed a sense of involvement which falsely represented its actual use.
3. Utilized well-known racing car drivers whose experience and renown could not have given them a special competence or expertise.
4. Conveyed the impression that the cars have doors and hoods that open and closed when they did not. (Topper Corp.)

The complaint for Wonder Bread charged that its ads:

1. Indicated it was an outstanding source of nutrients distinct from other enriched breads.
2. Indicated that it provided children with recommended quantities or all essential nutrients.

3. Indicated that it contained protein of high nutritional quality for maximum growth.
4. Indicated that it is the best food parents can give to their children during the growth years (ITT Continental Baking Inc., et al.).

It is recognized that the Federal Trade Commission later greatly reduced the scope of the original Wonder Bread complaint by eliminating many of the charges listed above.

The reason for including deceptive and non-deceptive commercials were twofold: (1) To determine if children would in fact be deceived by ads that the Federal Trade Commission judged to be deceptive and (2) To determine if changes did occur whether they were due to a generalized persuasibility artifact of the students.

The ads were positioned in the film as follows: Kaolaid (non-deceptive), Johnny Lightning (deceptive), Kellogg Breakfast (non-deceptive), and Wonder Bread (deceptive).

Procedure

The experimenters were introduced into six different classrooms by their respective teachers. The children were told that they were going to see a film and that questions would be asked about it.

Four classrooms of seventh and eighth grade students saw the film with the inserted ads while one seventh grade class saw the film with no ads. One class of second grade students saw the film with commercials. Since the study was conducted during a single school day, time prevented a control group of second grade students from being recruited.

After the brief introduction to the classes, pre-questionnaires were distributed. All students received instructions on how to complete the

questionnaire; the instruction set also included examples of questions. For the second grade students, all questions were read aloud. The seventh and eighth grade students read all items from the questionnaire. All questionnaires were then collected and the film was shown. The film was on color video tape and presented on a twenty-five inch television monitor.

After the film was completed, post-questionnaires were distributed and students were given instructions identical with pre-questionnaire comments.

The entire procedure took about fifty minutes. A debriefing session was held with all students one week later.

Design

A prepost with control group was utilized in the design for the seventh and eighth grade students. One class (N=24) served as the control group while four classes (N=78) served as the experimental group. For second grade students, a prepost without control group was utilized due to the problem mentioned earlier of not being able to obtain a control group.

Test Instrument

The second grade students' method of response questionnaires contained three different methods of response. For some items a series of pairs of happy and sad faces was presented. Only three pairs of faces appeared per page. If they agreed with a question, the children were asked to color in the happy face, and if they disagreed, they were asked to color in the sad face. When they were unsure of the response, they were asked to place an X on the left side of the page.

Sad faces appeared first for some items while happy faces appeared first for others. The sequencing of whether happy or sad would appear first for a question was determined randomly.

A second method of response was utilized for attitude items. A square with a circle inside was positioned between the two faces. Students were told to color the circle if they were unsure of how they felt.

The last type of response was for behavioral intention items. For each of these questions, a series of single letters was given. Each letter represented the first letter for a product (for example, W for Wylers). The children were asked to circle the letter of the product they would most like to have.

The main purpose of having several different response techniques was to determine, in an exploratory way, which response pattern would be easiest for young children to understand.

The seventh and eighth grade students' questions were placed either on five-point bi-polar scale (intentions and favorability) or five-point Likert items (message beliefs). The poles of the scales were reversed randomly across all questions. Recall questions, however, were binary (yes, no) in nature.

Content of Questions

The second grade students received four types of questions, descriptive message beliefs, attitude questions, behavioral intention items, and recall questions. The descriptive message beliefs for the deception ads (Johnny Lightning and Wonder Bread) were developed from existing case citations. For the non-deceptive commercials (Kellogg's "Good Breakfast" and Koolaid), beliefs came from the copy. Attitude items were global and asked for general like to dislike of the product. Behavioral intention items asked the students to choose among four competing brands for a particular product category. Three brands were leading sellers in the Chicago market (Who Buys What in Chicago Now, 1973) while the fourth represented the

brand in the ad. Six recall items were also given. Four were for the ads in the film while two were for dummy ads. The belief, attitude, and behavioral intention items were identical in pre and post measurement situations. Recall items appeared only on the posttest.

The belief, attitude, and recall questions were the same for seventh and eighth grade students. Behavioral intentions were different in that they simply asked whether the student would like to use the product in question; no competing brand alternatives were given. Belief, attitude, and intention items were identical pre to post.

One additional set of questions was included on the pretest for the seventh and eighth grade students. Sixteen items were included to measure family communications.

The role of family communication has been explored in a variety of contexts. Studies have focused on the impact of family communication orientations on political socialization (Chaffee, McLeod and Wackman, 1966), on persuasive messages (Stone and Chaffee, 1970), on leisure time activity of adolescents (Wade, 1973), and on family communication and mass communication in differential political socialization (Jackson-Beeck and Chaffee, 1975).

Family communication has been viewed as a two-dimensional construct. Although there are many "themes" which may be expressed in the communication parents have with their children, these studies have shown that two of these are recurrent in most families. These two dimensions have been shown to be independent of each other and have been called "concept orientation" and "socio orientation."

In the socio-oriented family, the parents tend to stress the importance for children to avoid social conflict, to give in on arguments, to

avoid antagonizing others, and to defer to one's elders. The concept-oriented family stresses the importance to the child of expressing an opinion even if that will cause some interpersonal tension, considering both sides of issues before making up one's mind about the issue, and in general, placing the issue involved ahead of other considerations. Since families are not entirely homogeneous with respect to each of these dimensions, it is possible for a family to stress either of the dimensions, both of them, or neither of them. Those families high on both family communication dimentions have been called Consensual in terms of their communication orientation; those high on the concept orientation but low on the socio-orientation have been called Pluralistic; those low on the concept-oriented dimension and high on the socio-oriented dimension are referred to as Protective; and finally, those low on both orientations have been called Laizze-faire families.

Results

Recall Indicators

As an indicator of attending to the commercials shown within the program, seventh, eighth, and second grade students in the test groups were asked to indicate the brands of products for which they had seen commercials. For the seventh and eighth graders, 92.3 percent recalled seeing a commercial for Koolaid, 93.6 percent recalled the Kellogg institutional commercial, 93.6 recalled seeing a Johnny Lightning commercial, and 94.9 percent recalled the Wonder Bread commercial. Similar levels were observed for not seeing the two "dummy" commercials, GI Joe and Hostess Snack Cakes.

For students in the second grade, all children in the sample accurately recalled seeing commercials for Koolaid, Kellogg, and Wonder Bread.

For Johnny Lightning, 91.2 percent had accurate recall. All children reported not seeing a commercial for Hostess Snack Cakes while 91.2 percent reported not seeing a GI Joe commercial.

Relationships of Commercial Beliefs, Attitude, and Intentions

Analyses were conducted to determine the relative importance of acceptance/non-acceptance of the belief material contained in the commercials and global attitude toward the brands in explaining purchase intentions. To examine this question, regression analyses were conducted for each brand where the independent variables were Likert measurements of the descriptive message beliefs, the global favorability measure, and a dummy variable indicating whether the respondent was in the test or control group. The dependent measures were the five-point assessment of intentions-to-purchase for each brand. Table 1 shows the results of the regression analyses for Koolaid. Clearly the unstandardized regression coefficients show that

-----Insert Table 1 about here-----

global favorability towards the brand is far more important in determining intentions than are any of the message belief statements. This is the case for the analysis on both the pretest scores as well as the posttest scores; both pretest and posttest multiple correlations are significant ($p < .01$).

To specifically test the similarity/dissimilarity of the structure of the relations of message beliefs and attitude with intentions across the pretest and posttest, the restricted least squares hypothesis was utilized, i.e., $r = R\beta$ (Goldberger, 1960). In this hypothesis, r refers to the restrictions, in this case the unstandardized regression coefficients from pretest, and β refers to the actual observed coefficients in the

posttest data; R is an identity matrix so that the null hypothesis to be tested is that the intercept and coefficients in the posttest are not significantly different from those in the pretest. The results of this test are shown in the last line of Table 1. The hypothesis cannot be rejected ($p > .05$) indicating a high similarity of the structure of relationships between pretest and posttest. The non-significant t-ratio associated with the test/control dummy variable also indicates no significant difference between test and control groups in terms of intentions-to-purchase both in the pretest and the posttest.

Identical findings to the above were found for the analyses on Johnny Lightning and Wonder Bread commercials. As shown in Table 2 and Table 3, global attitude toward the brand is the single most important

-----Insert Tables 2 and 3 about here-----

determinant of intentions. The multiple correlations for both brands are significant ($p < .01$) and the restricted least squares hypothesis cannot be rejected in each case ($p > .05$). There is also no significant effect between test and control groups in each case on intentions-to-purchase ($p > .05$).

Effect of Commercials on Message Beliefs, Attitude, and Intentions

In order to examine the impact of the messages, analysis of covariance was used to hold constant the effect of pretest on posttest across test and control groups. In addition, the Likert measurement of "liking the program" in which the commercials were viewed was also used as a covariate. Table 4 shows the results of a multivariate analysis of covariance for Wonder Bread where the dependent variables were the three

descriptive message beliefs contained in the commercials. There is a

-----Insert Table 4 about here-----

significant difference ($p < .01$) between the posttest scores after adjustment for four covariates (the three pretest message beliefs and liking of program item) between the test and control groups as shown by the multivariate F transform of Wilk's Lambda in Table 4. The test group disagrees less than the control group after exposure with the message that "Wonder is the best bread your mother can give you to grow fast" and "Wonder contains all the vitamins you need to grow big and strong." As shown by the univariate F statistic and the group mean scores, there is no difference between the two groups on "Wonder is better than other white breads." However, the discriminant function coefficients for this main effect hypothesis show, in absolute value terms, that the belief on "vitamins" is about twice as important as the beliefs on "growing up fast" and "better for you than other white breads" which are about equal in importance in terms of showing differences between the test and control groups. Bartlett's V statistic transformed to Chi-square is given for the test of the discriminant function and is significant ($p < .01$) as shown in Table 4.

It is worthwhile to note the relationships of the covariates to the dependent measures as shown in Table 4. Clearly, there are significant relationships ($p < .01$) of the covariates with the dependent variables. However, liking of show appears to be very unimportant as a factor influencing the posttest scores relative to the pretest scores. The stepwise regression analyses show liking the program to provide an insignificant contribution to explained variance in the dependent measures. The canonical

correlation of the four covariates with the three posttest message beliefs is .80 ($p < .01$).

It should be noted that the above results indicate that children do not accept any of the three belief statements in the Wonder Bread commercial, each of which was judged by the Federal Trade Commission as a misleading statement. However, it does appear that exposure to the commercials tended to lower the levels of disagreement on two of the three statements as shown in Table 4. These seventh and eighth grade students apparently moved from strongly disagreeing that "Wonder Bread is the best thing your mother can give you to grow fast" and that "Wonder Bread contains all the vitamins you need to grow strong" to simply disagreeing with each of the statements.

In addition, it should be noted that analyses similar to the above for the other three commercials indicated there were not significant differences ($p > .05$) between the adjusted posttest scores on intentions, global attitude toward the brands, or acceptance of the message belief statements. This latter finding will be examined along with some accompanying explanatory information provided by respondents in the following section.

Family Communication and Acceptance of Message Beliefs

To examine the possible relationship of family communication patterns to acceptance/non-acceptance of the message beliefs, two-way analyses of variance were conducted on the test group respondents where one factor was Concept orientation and the second factor was Socio orientation; the dependent measure was a message belief in each case. Two levels were

developed for each factor, high and low, by splitting respondents on the median Concept score and the median Socio score. These two scores were developed for each respondent by summing across the responses to the mother and father measurements for Concept (four items) and for Socio (four items) orientation (total of 16 measurements per respondent). Each respondent was asked separately to indicate how often (0=never to 4=very often) his mother and his father mentioned each of the statements to him.

The results of these analyses for Johnny Lightning are shown in Table 5. The influence of Concept orientation is evident in the initial responses (pretest responses) of the subjects to the message belief as shown in Table 5. There is a main effect ($p < .01$) of concept orientation on level of acceptance of the message belief, "You can tell if toy

-----Insert Table 5 about here-----

race cars like Johnny Lightning are fun to play with if a real car driver like Mario Andretti says so." The high Concept seventh and eighth grade students accept this statement less so than do the low Concept students. This is also the case for acceptance levels to "Toy race cars like Johnny Lightning look as big as real cars when they're shown on TV." It should be noted that across both groups there is a higher level of disagreement with the testimonial statement by Andretti than with the statement relating to the way the toy cars appear on television. In both cases, however, the students either disagree or strongly disagree on the average with both statements.

These results are consistent with the conceptualization of the impact of a Concept orientation in communication. The higher the level

of Concept orientation training the more the individual will tend to question beliefs. No differences on the level of Concept orientation were found in the case of the Wonder Bread commercial ($p > .05$). The fact that the high Concept students question the message belief items in the Johnny Lightning commercial but do not do so relative to the low Concept students for the Wonder Bread commercial probably points toward the differential nature of these belief items. This is perhaps the reason why significant differences on adjusted posttest scores were found on these message beliefs for Wonder Bread but not for Johnny Lightning. Lack of discrimination on the Wonder Bread items across the Concept orientation dimension is perhaps tied to the difficulty of the respondent in analyzing the claims relative to his own experience and abilities; it is difficult for a seventh or eighth grade student (and perhaps adults as well) to evaluate whether or not Wonder Bread contains all the vitamins a child should have to grow strong. The high Concept-oriented student may try to do this before responding to the belief item but his experience does not allow him to draw definite conclusions based on the available information. On the other hand, it is relatively easy for the high Concept-oriented student to have played with toy race cars and make the judgment that acceptance of the statement "Toy race cars like Johnny Lightning look as big as real cars when they're shown on TV" conflicts with his immediate, personal experience with such toys. All of this, it appears, points toward greater susceptibility to persuasion in the case of the Wonder Bread belief items than in the case of the Johnny Lightning items.

Comparative Results for Second Grade Children

As in the case of the seventh and eighth grade students, the second grade children showed no significant changes ($p > .05$) on the global attitude items or on the intention items for any of the brands involved in the test. For example, on the pretest, three of the children indicated they wanted their mother or father to buy them Hot Wheels and three children again indicated intentions for Hot Wheels on the posttest; two indicated Tyco on the pretest and two children again indicated the same brand on the posttest; 20 indicated AFX brand pretest and 19 indicated AFX posttest; and six indicated Johnny Lightning pretest with eight indicating this brand on the posttest.

Again, as with the seventh and eighth grade students, the significant differences between pretest and posttest occurred on the descriptive message beliefs. Table 6 shows the results of analysis of each of these

-----Insert Table 6 about here-----

items for the three brands involved in the test. The significance test for these comparisons of two proportions based on the same individuals was conducted as follows (Walker and Lev, 1953). The number of students saying "no" to a message belief item on the pretest but saying "yes" to the same item on the posttest were subtracted from the number of students saying "yes" on the pretest but "no" on the posttest; this net score is squared and divided by the sum of the total number of students in each of the two groups. This statistic is approximately chi-square distributed with one degree of freedom.

As shown in Table 6, the smaller children were persuaded on more of the message belief items than were the older children. On the two deceptively judged ads, greater acceptance of belief items was shown pre to post for two of the four Johnny Lightning items and for two of the three Wonder Bread items.

Conclusions

The finding of high brand recall is consistent with findings of previous studies (Barry and Hansen, 1973). General observations made during the study on both older and younger children tend to confirm the recall results. During the film there was occasional inattention and interaction among the students. However, when the commercials appeared, attention quickly returned to the television screen. Other evidence indicates that children of the age included in the study would be able to discriminate between program and commercial content (Ward and Wackman, 1973).

In sum, it appears that the students were paying attention to the advertisements and should be able to deal on a cognitive level with the advertisements. The researchers believe, therefore, that the responses obtained in the study bear some relationship to actual consideration of the ads on the part of the children.

The researchers made an extra effort to provide a program vehicle for the commercials that the students would be generally favorable towards. This effort was made due to the prior belief that program content will affect perception of advertising messages. Just the opposite finding was observed; little if any relationship between program liking and reaction to the commercials was found.

The analysis also indicated that acceptance of the material presented in the ads is relatively unimportant when compared to general attitude toward the brand in explaining intentions. Given this finding, a major question remaining is what is the relative importance of advertising to other factors (actual use of the product, parental influence, etc.) in determining the development of a child's attitude toward a brand.

Another major finding was that children were influenced to change their levels of acceptance of beliefs contained in the commercials. In the case of the older children, such influences were shown for Wonder Bread. For the younger children, beliefs were changed for Koolaid, Johnny Lightning, and Wonder Bread. However, there was no evidence to show that the ads had any effect on overall favorableness of the brands and intentions. This finding appears to be congruent with the notion of the low involvement hierarchy of effects (Krugman, 1962). The applicability of the low involvement hierarchy to children has not been previously investigated.

The finding of changing of message beliefs pre to post may not apply to all children, however. Children who come from families which stress questioning in family communication tended not to accept message beliefs for the Johnny Lightning advertisement. The same children, however, did accept the beliefs for Wonder Bread. A possible reason for these divergent results is that when questioning children are presented with information which is impossible for them to evaluate (Wonder Bread, for example) this questioning tendency may be of little value in such situations.

The study included both deceptive and non-deceptive ads. The results showed for the older children that they were persuaded only by

the deceptive commercial for Wonder Bread. This finding indicates that these children were not such that they could be persuaded by any stimulus material whatever. The younger children showed shifts in both the deceptive and non-deceptive ads, and this indicates that they are more likely to be persuaded generally than the older children. This finding of greater persuasibility seems to pose greater potential problems for the regulator of advertising. It appears that greater attention must be given to commercials which are directed primarily at the younger child.

The change in beliefs for Wonder Bread for older and younger children tends to reinforce the original complaint issued by the Federal Trade Commission against ITT Continental Baking Company. The claimed deceptiveness by the FTC for Johnny Lightning held only for the younger children.

The consequences of children taking away this deceptive material from commercials is not clear since no direct impact was found on brand attitude or on intentions. Therefore, until more data are gathered indicating the strength of the relationship between message beliefs and attitude toward the brand it is impossible to determine the potential harm that deceptive ads such as those studied here might involve.

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Table 1

Regression Analyses on Koolaid
Intentions-to-Purchase
for Restricted Lease Squares Hypothesis
n=102

Variable	Pretest Unstandardized Coefficients	Pretest Standardized Coefficients	Pretest t-ratio	Posttest Unstandardized Coefficients
Intercept	1.03		.99	.46
Healthier than Carbonated Drinks	.16	.12	1.22	.15
Has Lots of Sugar	.04	.04	.40	-.06
Global Attitude	.49**	.46	4.92	.71
Test/Control Dummy	.04	.01	.15	.07

Pretest: $R = .51^{**}$, $F = 8.46$ (4,97)

Posttest: $R = .65^{**}$, $F = 17.92$ (4,97)

$H_o: r = R\beta$; $F = 1.53$ (5,97)

**p < .01.

Table 2

Regression Analyses on Johnny Lightning
Intentions-to-Purchase
for Restricted Lease Squares Hypothesis
n=102

Variable	Pretest Unstandardized Coefficients	Pretest Standardized Coefficients	Pretest t-ratio	Posttest Unstandardized Coefficients
Intercept	1.64**		3.36	1.18
Andretti Owns & Uses	.01	.01	.10	.03
Fun to play with if Andretti says	.01	.01	.12	-.13
On TV as big as real cars	-.26*	-.27	2.53	-.08
On TV go as fast real cars	.15	.15	1.41	.12
Global Attitude	.41**	.35	3.56	.43
Test/Control Dummy	-.11	-.04	.44	.11

Pretest: $R = .44^{**}$, $F = 3.84$ (6,95)

Posttest: $R = .45^{**}$, $F = 3.88$ (6,95)

H_o: $r = R\beta$; $F = .78$ (7,95)

**p < .01
*p < .05

Table 3

Regression Analyses on Wonder Bread
Intentions to Purchase
for Restricted Least Squares Hypotheses
n=102

Variable	Pretest Unstandardized Coefficients	Pretest Standardized Coefficients	Pretest t-ratio	Posttest Unstandardized Coefficients
Intercept	1.33**		2.88	1.44
Best Mother can give to grow fast	-.10	-.07	.70	-.07
Better than other white breads	.01	.01	.10	-.07
Contains all vitamins you need	.09	.07	.73	.06
Global Attitude	.58**	.52	5.94	.59
Test/Control Dummy	-.20	-.07	.82	-.14

Pretest: $R = .53^{**}$, $F = 7.55$ (5,96)

Posttest: $R = .46^{**}$, $F = 5.19$ (5,96)

H_o: $r = R\beta$; $F = .13$ (6,96)

**$p < .01$

Table 4

Multivariate Analysis of Covariance for
Wonder Bread Commercial Descriptive Beliefs
on Test/Control Hypothesis
(Fixed Effects Model, Within Cells as Error)

Discriminant Function Coefficients and
Adjusted and Unadjusted Mean Scores

Posttest Dependent Variable	Test n=78		Control n=24		Standardized Discriminant Coefficients
	Unadjusted	Adjusted	Unadjusted	Adjusted	
Best Mother can give to grow fast (X_1)	2.09	2.06	1.83	1.67	.41
Better than other white breads (X_2)	2.45	2.47	2.54	2.47	-.40
Contains all vitamins you need (X_3)	2.56	2.60	2.12	1.98	.80

Multivariate F = 4.21** (3,88)

Univariate F:

X_1 = 4.36* (1,90)

X_2 = .43 (1,90)

X_3 = 9.55** (1,90)

Bartlett's X^2 = 11.88** (d.f. = 3)

**p < .01
*p < .05

Table 4 (continued)

Correlation of Covariates
With Dependent Variables

Dependent Variable	R	Stepwise F. Ratios for Covariates			
		$PreX_1$	$PreX_2$	$PreX_3$	Liking Show
Post X_1	.55	26.60**	5.14*	4.64*	.93
Post X_2	.75	11.89**	93.06**	.71	.02
Post X_3	.71	20.96**	20.32**	31.42**	.99
		(1,93)	(1,92)	(1,01)	(1,90)

Canonical R = .80

X^2 = 123.69** (d.f.=12)

**p < .01
*p < .05

Table 5

Analyses of Variance on Two Pretest
Johnny Lightning Commercial Descriptive Beliefs
by Concept and Socio Orientations
(Test group only; n=78)

Dependent Variable: Johnny Lightning is fun to play with if Mario Andretti says so.

Hypotheses	d.f.	MS	F	p
Concept (A)	1	8.12	8.11	.005
Socio (B)	1	1.30	1.30	.26
A x B	1	.93	.93	.34
Within cells (error)	74	1.00	-	-

Concept Orientation Mean Scores

Low: $\bar{X}$ = 2.34 n=47

High: $\bar{X}$ = 1.67 n=31

Dependent Variable: Johnny Lightning looks as big as real cars when shown on TV.

Hypotheses	d.f.	MS	F	p
Concept (A)	1	5.59	4.32	.04
Socio (B)	1	1.87	1.44	.23
A x B	1	3.18	2.46	.12
Within cells (error)	74	1.29	-	-

Concept Orientation Mean Scores

Low: $\bar{X}$ = 2.77 n=47

High: $\bar{X}$ = 2.23 n=31

Table 6

Responses to Product Attribute Items,
Second Graders[1]

Item	Response (yes) Number of Pre Subjects	Number of Post Subjects	Chi Square (1 df)
1. Koolaid is better than pop drinks.	14	12	.5
2. Koolaid has a lot of sugar in it.	28	22	6.0*
3. Mario Andretti (the famous race car driver) plays with a Johnny Lightning race car at home.	5	24	19.0**
4. You can fit inside a Johnny Lightning racing car.	6	6	0.0
5. Johnny Lightning racing cars go as fast as your Daddy's car.	1	5	4.0*
6. Would you like to play racing cars with Mario Andretti?	22	23	1.0
7. Wonder Bread is better for you than other white breads.	5	11	4.5*
8. Wonder Bread contains all the vitamins you need every day to grow strong.	6	5	.14
9. Wonder Bread is the best thing your Mom can give you to help you grow up.	1	9	8.0**

[1]Base = 34.

*$p \leq .05$.
**$p \leq .01$.